REMARKS

In view of the following discussion, the Applicants submit that none of the claims now pending in the application are unpatentable under the provisions of 35 U.S.C. §103. Thus, the Applicants believe that all of these claims are now in allowable form.

I. OBJECTION TO THE SPECIFICATION

The Title stands objected to for allegedly not being descriptive. Although the Applicants disagree, the Applicants have nevertheless amended the title to more clearly describe the invention. Specifically, the Title has been amended from "Method and Apparatus for Utility-Based Dynamic Resource Allocation in a Distributed Computing System" to "Automated Method for Allocating Resources Among a Plurality of Resource-Using Computational Entities in a Data Processing System." The new Title recites substantially verbatim the preamble of Applicants' claim 35; as such, the Applicants respectfully submit that the new Title is clearly indicative of the invention to which the claims are directed. Thus, the Applicants respectfully request that the objection to the Specification be withdrawn.

II. REJECTION OF CLAIM 35 UNDER 35 U.S.C § 103

Claim 35 stands rejected as being unpatentable over the Rolia patent (U.S. Patent No. 7,310,672, issued December 18, 2007, hereinafter "Rolia1") in view of the Rolia et al. patent application (U.S. Patent Application Publication No. 2005/0097560, published May 5, 2005, hereinafter "Rolia2"). The Applicants respectfully traverse the rejection.

The Examiner's attention is respectfully directed to the fact that Rolia1 and Rolia2, singly or in any permissible combination, fail to teach, show, or suggest computing, as a part of determining a resource allocation, the cost of re-allocating a resource from one resource-using entity to another, positively claimed by the Applicants.

Neither Rolia1 nor Rolia2 discusses the need to account for the cost of re-

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allocating resources in determining the actual allocations.   As discussed in the Applicants' Specification (e.g., at least at paragraph 0023), re-allocating a resource from one resource-using entity to another may come with a cost, for example in terms of delay or machine downtime.   Accounting for such costs when determining a new allocation of resources helps to minimize service disruptions to customers and maintain optimal performance of a data processing system.   Rolia1 and Rolia2 simply do not address this fact.

Applicants' independent claim 35 specifically recites:

35.   An automated method for allocating resources among a plurality of resource-using computational entities in a data processing system, the method comprising:
    establishing a service-level utility for each of said plurality of resource-using computational entities, wherein the service-level utility is representative of an amount of business value obtained by each of said plurality of resource-using computational entities for one or more levels of performance and demand associated with each resource-using computational entity;
    transforming said service-level utility into a resource-level utility for each of said plurality of resource-using computational entities, wherein the resource-level utility is representative of an amount of business value obtained by each of said plurality of resource-using computational entities when a quantity of said resources is allocated to the resource-using computational entity, wherein the resource-level utility indicates, for at least one of said plurality of resource-using computational entities, an estimated cumulative discounted or undiscounted future utility starting from current state descriptions of said at least one resource-using computational entity, wherein said estimated cumulative discounted or undiscounted future utility is trained on a temporal sequence of observed data using an adaptive machine learning procedure;
    aggregating resource-level utilities of all of said plurality of resource-using computational entities;
    computing a resource allocation from said resource-level utilities, as aggregated, by executing an optimization method to maximize a total utility of said data processing system, wherein said resource allocation involves re-allocating at least one of said resources from one of said plurality of resource-using computational entities to another of said resource-using computational entities, wherein said optimization method comprises a standard linear or nonlinear algorithm, and wherein said computing further comprises computing a cost that is expected to be incurred as a result of said re-allocating; and
    executing and conveying to the plurality of resource-using computational entities said resource allocation. (Emphasis added)

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As Rolia1 and Rolia2 fail to teach or suggest computing, as a part of determining a resource allocation, <u>the cost of re-allocating a resource from one resource-using entity to another</u>, Rolia1 in view of Rolia2 fails to render obvious the Applicants' independent claim 35. As such, the Applicants respectfully request the rejection of claim 35 under 35 U.S.C. §103 be withdrawn.

III. CONCLUSION

Thus, the Applicants submit that all of the presented claims fully satisfy the requirements of 35 U.S.C. §103. Consequently, the Applicants believe that all of the presented claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring the issuance of a final action in any of the claims now pending in the application, it is requested that the Examiner telephone <u>Kin-Wah Tong, Esq.</u> at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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